

Claims

1. A current sensing unit comprising
at least two Hall sensors (1a, 1b) arranged on a
conductor (2),

said Hall sensors (1a, 1b) being arranged such that
they detect a magnetic field generated by a current flowing
through the conductor (2) equally in absolute amount as
well as an interference field equally in absolute amount
and detect either the magnetic field or the interference
field with the sign being different, respectively.

2. A current sensing unit according to claim 1,
wherein

the Hall sensors (1a, 1b) are arranged such that the
magnetic field generated by the current flowing through the
conductor (2) is detected by both Hall sensors with the
sign being different, respectively, and

the output signals of the Hall sensors (1a, 1b) are
subtracted from each other.

3. A current sensing unit according to claim 1,
wherein

the Hall sensors (1a, 1b) are arranged such that the
magnetic field generated by the current flowing through the
conductor (2) is detected by both Hall sensors with the
signs being equal, and

the output signals of the Hall sensors (1a, 1b) are
added.

4. A current sensing unit according to any of the
preceding claims, said two Hall sensors (1a, 1b) being
arranged such that the conductor (2) extends between the
two Hall sensors.

5. A current sensing unit according to any of the preceding claims, comprising a shield (3) mounted around the Hall sensors (1a, 1b) and the conductor (2).

6. A current sensing unit according to any of the preceding claims, said conductor (2) being a circular conductor.

7. A current sensing unit according to any of the preceding claims, said Hall sensors (1a, 1b) having the least possible distance to each other.

8. A current sensing unit according to any of the preceding claims, said Hall sensors (1a, 1b) having the same distance to the conductor (2), respectively.

9. A current sensing unit according to claim 2, wherein a plurality of pairs of Hall sensors (11 and 21, 31 and 41) are provided, wherein the output signals of each pair are subtracted from each other by a subtractor (5, 51 52) and the resulting output signals from the pairs of Hall sensors being added by an adder (15).

10. A current sensing unit according to claim 3, wherein a plurality of pairs of Hall sensors (11 and 21, 31 and 41) are provided, wherein the output signals of each pair are added by an adder and the resulting output signals from the pairs of Hall sensors are added by an adder (15).

11. A current sensing unit according to any of the preceding claims, wherein the output signal of a Hall sensor (11, 21, 31, 41) is supplied to a temperature compensation sensor (12, 22, 32, 42).